

REMARKS

Claims 1-18 are pending in the present application. Claim 14 is amended to correct typographic errors and/or to clarify the subject matter recited therein. The amendments do not add new matter.

Claims 1-4, 6-11, and 13-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Allegedly Admitted Prior Art (hereinafter AAAPA), in view of Chen et al., IEEE publication "Test Generation for Crosstalk-induced Delay in Integrated Circuits" (hereinafter Chen). Applicant respectfully traverses.

The independent claims in this application provide that the propagation delay time on a measurement path is measured by comparing the actual value of a register at the end of the measurement path with an expected value. In particular, claim 1 relates to a method for testing a semiconductor integrated circuit. When a signal for measuring a delay is applied to a measurement path on which a delay test is conducted, a signal having a transition being in phase or in opposite phase with the signal for measuring a delay applied to the measurement path is applied to a path that influences crosstalk to the measurement path. In this manner, a propagation delay time of the signal that propagates through the measurement path under the influence of crosstalk is measured. In the method according to claim 1, a propagation delay time of a signal is determined by comparing a value of a flip-flop receiving the signal outputted from an output end of a measurement path with an expected value.

The Office Action rejects claim 1 based on the combination of AAAPA and Chen. However, there is no motivation to combine the references. The Office Action of April 29, 2005 maintains the rejections of the prior Office Action, which stated that "one with ordinary skill in the art at the time of the invention, motivated as suggested, would find it obvious to apply the

cost cutting teachings of Chen et al. to the prior art method and program product based on the same.” (Office Action of August 17, 2004; page 4, lines 9-18). However, this conclusory reasoning is insufficient to support a claim of obviousness. The Examiner uses an alleged advantage of Chen, cost saving, as a motivation to combine the teaching of Chen with AAAPA, without showing that AAAPA furthers this goal. A general statement of improvement, by for instance cost-savings or increased efficiency, does not translate into a motivation to combine references. The AAAPA relates to testing a semiconductor integrated circuit device by a scan path method. (Specification; page 1, line 15 to page 3, line 2). However, there is no indication that AAAPA is a cost saving method. There is also no indication of the feasibility, much less the desirability, of combining AAAPA with Chen to arrive at the method of the present invention. Therefore, the rejection should be withdrawn.

However, even the combination of Chen and AAAPA, a motivation for which is respectfully not conceded, does not teach or suggest all of the elements of the claims. Neither AAAPA nor Chen teaches or suggests a signal having a transition **being in phase or in opposite phase** with the signal for measuring a delay applied to the measurement path as being applied to a path that influences crosstalk. Chen is not cited in the previous Office Action as teaching this feature, and it is respectfully submitted that the discussion in columns 1 and 2 of Chen do not disclose or suggest signals being in phase or in opposite phase with respect to the measurement path signal being applied to the crosstalk path. The AAAPA also does not disclose or suggest this feature, since the AAAPA apparently only discusses testing a scan path composed of flip-flops using an AC signal. (Specification; page 1, line 15 to page 2, line 11). Since neither reference teaches or suggests the feature of a signal being in-phase or opposite phase with

respect to a measurement path, where that signal is applied to a crosstalk path, the combination of the references does not render claim 1 unpatentable.

Additionally, Chen does not disclose, or even suggest, the determination of the delay time based upon such a comparison of values, but rather only focuses on determining delay time using time windows. In response to this argument, the Examiner asserts that the feature of the propagation delay of a signal being determined by comparing a value of a flip-flop receiving the signal from the propagation delay path with an expected value is admitted as prior art on page 2, last line, to page 3, line 2, of the specification. However, this argument does not recognize that the propagation delay recited in the claims results from a comparison allegedly discussed in Chen.

Neither of AAAPA nor Chen discloses **determining a propagation delay time** from a comparison of a flip-flop output and an expected value. The section of AAAPA cited by the Office Action states “[t]hereafter, the result is scanned out, for comparison with an expected value.” (Specification; page 2, line 25 to page 3, line 1). However, as is apparent from the section preceding the cited section, the result being scanned out is an output of a scan path, and not the output of a signal that has been subjected to crosstalk, as recited in claim 1. The determination of the propagation delay in a manner not disclosed in Chen avoids both Chen and AAAPA.

Therefore the claims are allowable at least for this additional reason.

Claim 2 depends from claim 1 and is therefore allowable for at least the same reasons as claim 1 is allowable.

Claims 3, 4, 7-11, 14 and 15 include features similar to those discussed above with respect to claim 1, and therefore these claims are allowable for at least the same reasons as claim

1 is allowable. Claims 6 and 13 depend from claims 4 and 11 respectively, and therefore these claims are allowable for at least the same reasons as their parent claims.

Claims 5, 12, and 16-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAAPA in view of Chen, and further in view of United States Patent No. 5,235,566 to Merrill (hereinafter Merrill). The addition of the Merrill reference fails to cure the critical deficiencies discussed above with respect to AAAPA and Chen. Therefore, since these claims include features similar to those discussed above with respect to claim 1, these claims are allowable over the combination of references for at least the same reasons as claim 1 is allowable.

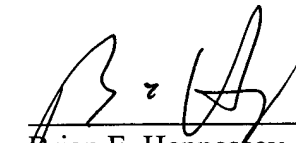
CLOSING

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that independent claims 1, 3-5, 7-12, and 14-16 are in condition for allowance, as well as those claims dependent therefrom. Passage of this case to allowance is earnestly solicited.

However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, not fully covered by an enclosed check, may be charged on
Deposit Account 50-1290.

Respectfully submitted,



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